

What is claimed is:

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1. A display system comprising:
a memory, containing graphics data, divided into logical regions, and attribute data; and

an attribute system, connected to said memory wherein said attribute system selects graphics data from fewer than all of said logical regions based on said attribute data and transmits said graphics data to a display.

10 2. The display system recited in claim 1; wherein said graphics data and said attribute data are stored in physically separate memories.

3. A display system, comprising:

a memory, containing graphics data, divided into logical regions, and attribute data; and

15 a regions system, that calculates which regions of said graphics data contain data necessary for display of a block of pixels; wherein said regions are fewer than all of said logical regions.

4. The display system recited in claim 3; wherein said graphics data and said attribute data are stored in physically separate memories.

20 5. The display system recited in claim 3;
wherein said regions system sends identities of said regions to a screen refresh unit; and

wherein said screen refresh unit, calculates memory addresses from said identities and sends selected graphics data from said memory to a display.

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6. The display system recited in claim 5, said logical regions further comprising memory to store graphics data for each pixel of a monitor.

7. A method for selectively reading pixel data from a frame buffer memory array, comprising the steps of:

5 defining a plurality of regions of frame buffer memory, wherein each region comprises memory to store graphics data for each pixel of a monitor; storing attribute data for each pixel in a memory, wherein said attribute data encodes which of said regions are to be displayed on said monitor; retrieving said attribute data for a pixel from said memory;

calculating a subset of said regions of frame buffer memory that are required
to display said pixel on said monitor; and
retrieving from said frame buffer memory pixel data only from said subset of
regions of frame buffer memory that are required to display said pixel
on said monitor.

15 8. The method for selectively reading pixel data from a frame buffer memory array as recited in claim 7; wherein said graphics data and said attribute data are stored in said frame buffer memory.

9. A method for selectively reading pixel data from a frame buffer memory array, comprising the steps of:

20 defining a plurality of regions of frame buffer memory, each region further
comprising memory to store graphics data for each pixel of a monitor;
storing attribute data for each pixel in a memory, encoding which of said
regions are to be displayed on said monitor using the attribute data;
25 defining groups of pixels as tiles;
selecting a tile for display on said monitor;

25 selecting a tile for display on said monitor;

retrieving said attribute data for said tile from said memory;

calculating a subset of said regions of frame buffer memory that are required to display said tile on said monitor; and

retrieving from said frame buffer memory pixel data only from said subset of regions of frame buffer memory that are required to display said tile on said monitor.

10. The method for selectively reading pixel data from a frame buffer memory array as recited in claim 9; wherein said graphics data and said attribute data are stored in said frame buffer memory.

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